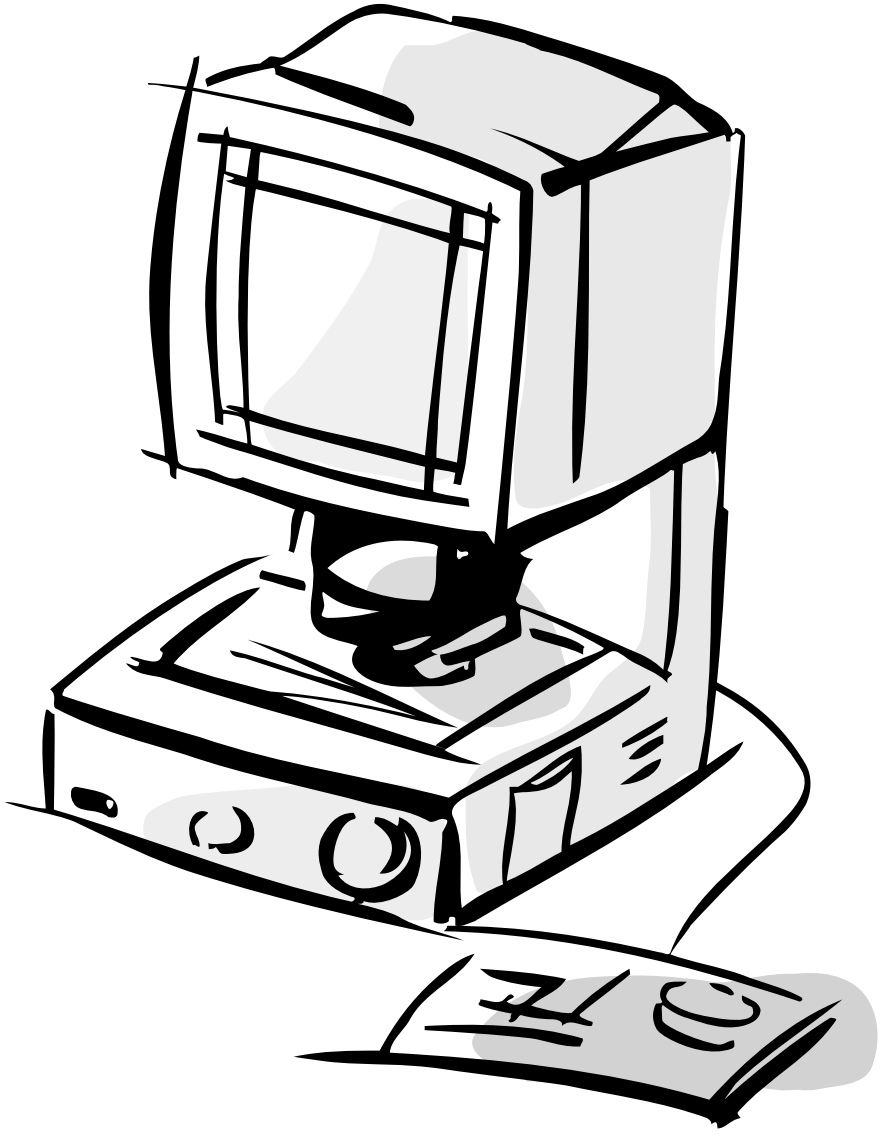
Canon

Microfilm Scanner 350

INSTRUCTIONS



ENGLISH Be sure to read this instructions before you use the equipment.
Keep this instructions on hand for reference to ensure optimum preformance.

International ENERGY STAR® Office Equipment Program

As an ENERGY STAR partner, Canon Electronics Inc. has determined that this product meets the ENERGY STAR guidelines for energy efficiency.

The International ENERGY STAR Office Equipment Program is an international program that promotes energy saving through the use of computers and other office equipment. The program backs the development and dissemination of products with functions that effectively reduce energy consumption. It is an open system in which business proprietors can participate voluntarily. The targeted products are office equipment such as computers, monitors, printers, fax machines, copiers and scanners. Their standards and logos are uniform among the participating nations.

FCC REGULATIONS (For 120V models)

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy, and if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

Do not make any changes or modifications to the equipment unless otherwise specified in the manual. If such changes or modifications should be made, you could be required to stop operation of the equipment.

RADIO INTERFERENCE REGULATIONS (For 120V models)

This digital apparatus does not exceed the Class A limits for radio noise emissions from digital apparatus set out in the Interference-causing equipment standard entitled "Digital Apparatus", ICES-003 of the Industry Canada.

RÈGLEMENT SUR LE BROUILLAGE RADIOÉLECTRIQUE (For 120V models)

Cet appareil numérique respecte les limites de bruits radioélectriques applicables aux appareils numériques de Classe A prescrites dans la norme sur le matériel brouilleur: "Appareils Numériques", NMB-003 édictée par l'Industrie Canada.

Für EMVG

Dieses Produkt ist zum Gebrauch im Wohnbereich, Geschäfts-und Gewerbebereich sowie in Kleinbetrieben vorgesehen.

MODEL NAMES

Model Microfilm Scanner 350 is identical to model M31023.
Model Microfilm Scanner 350 is the sales name of model M31023.

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INTRODUCTION

These instructions describe the operating procedures for the Canon Microfilm Scanner 350. After you set up the unit, keep this manual in a convenient location so you can find it when you need it.

Conventions

A few symbols and notations alert you to additional information that will make operation of the scanner more efficient, trouble free, and safe.

(→P.13)

A number preceded by an arrow and enclosed in parentheses shows you the page number that contains more information about the previous statement or paragraph.

WARNING

Warnings are provided for your safety and contain extremely important information. Failure to observe the instructions provided in a warning could result in death or serious injury to yourself or your co-workers.

CAUTION

Caution notices are also provided for your safety and contain important information. Failure to observe the instructions provided in a caution notice could result in serious injury to yourself or your co-workers or damage to the equipment.

HEAT CAUTION

There will be cautions for heat injury caused by hot sections. For your safety, be sure to follow instructions given in these cautions.

Important

These important notes contain important information on procedures that must be followed or actions that must be avoided. Failure to observe a request could result in damage to the equipment or a malfunction.

Notes

Notes provide additional tips or advice that can save your time and effort in using the scanner.

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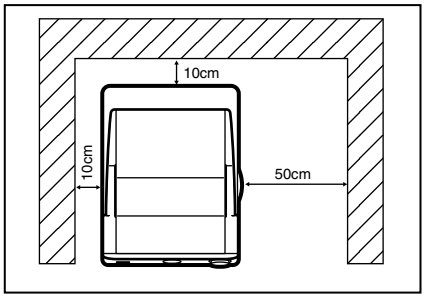
BEFORE YOU BEGIN ...

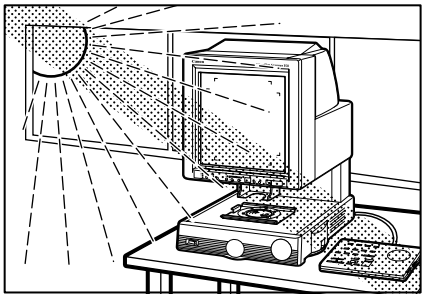
To ensure safe, efficient operation, read the follow precautions and recommendations before you choose a location and set up the system.

⚠ Work Safety!

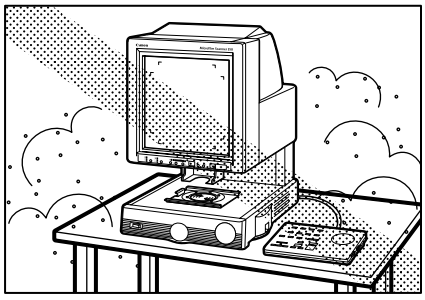
Choosing a safe location



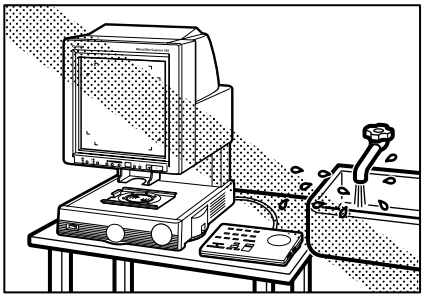
■ To ensure adequate space for ventilation, operation, and maintenance, make sure there is enough space around the system on all sides. To prevent overheating, never block the ventilation slots.



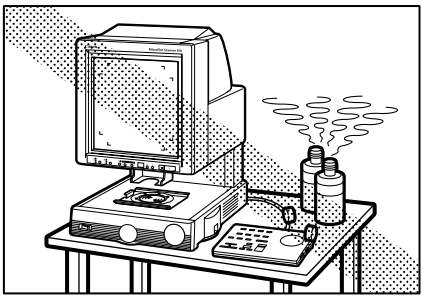
■ Avoid exposure to direct sunlight. When exposure to sunlight is unavoidable, install curtains to protect the unit.



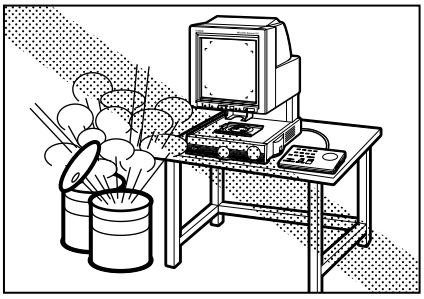
■ Avoid a dusty location. Dust can adversely affect the internal parts of the unit.



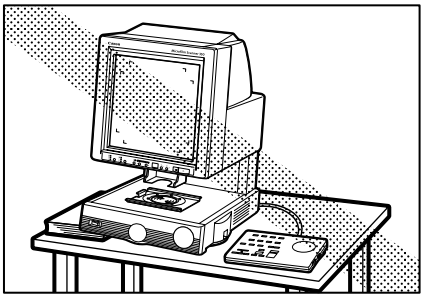
■ Do not set up and use the unit in a location where the unit is exposed to water, steam, or high humidity. Keep all liquids away from the unit.



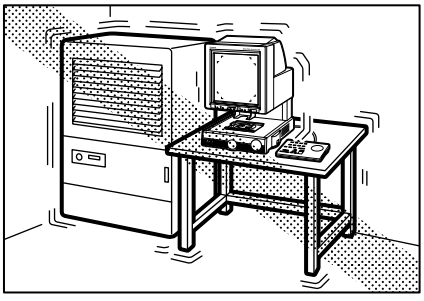
■ Avoid areas like laboratories where fumes from ammonia, acetone, or other volatile chemicals are present. Never use any kind of volatile, flammable spray near the unit.



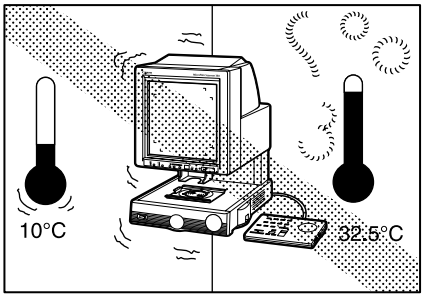
■ Never set up the unit in an area where flammable substances like alcohol, thinner, or other organic chemicals are present.



■ Select a flat, stable surface that can support the 26 kg (57.2 lb) weight of the unit.

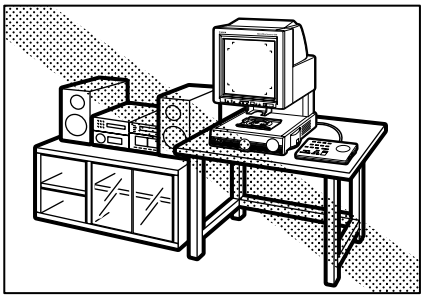


■ Choose a location that is free of excessive vibration.



■ Avoid a location subject to sudden or wide changes in temperature. Condensation inside the unit can cause poor image quality. Use the unit in a location within these ranges for temperature and humidity.

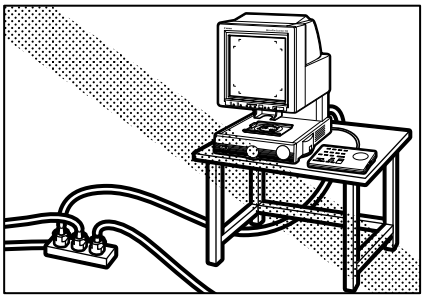
Temperature	10˚C to 32.5˚C (50˚F to 90.5˚F)
Humidity	10% to 80% RH



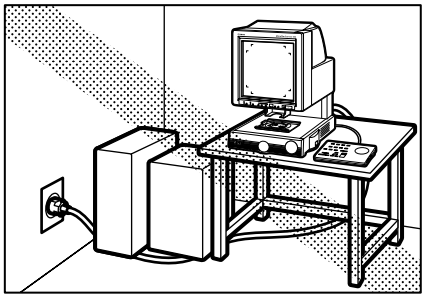
■ Do not place the unit near large speakers, a radio, a television, or any other type of equipment that can generate a strong magnetic field.

Power supply

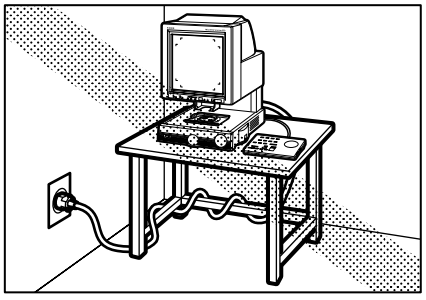
If you have any questions about the power source at your work site, contact your supplier or the power company.



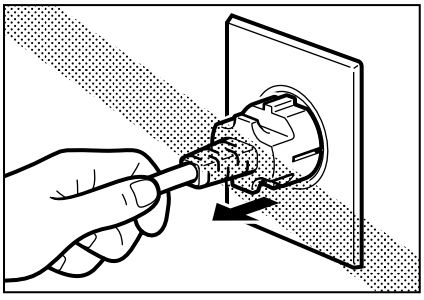
■ The unit should have an independent power source that is not shared with any other electrical device. If you have to use an extension cord or power strip, make sure the total ampere rating for all the equipment does not exceed the ampere rating of the extension cord.



■ Do not place anything on the power cord, and do not locate the unit where people working around the unit will walk on the cord.



■ Do not bundle the power cord or wrap it around an object like a table or chair leg. The area around the unit should be clear of all obstacles. In case of an emergency, you should be able to reach the power source quickly to unplug the cord.



■ To remove the power cord from the power outlet, grasp the head of the plug firmly to remove it. Never pull on the cord to remove the plug from the power outlet. Never touch the power cord with wet hands.

Daily handling

Before using the equipment, make sure you and your co-workers read the following warnings about using this equipment.

⚠ PAY ATTENTION TO THESE WARNINGS! FAILURE TO FOLLOW THESE WARNINGS COULD RESULT IN INJURY FROM FIRE OR ELECTRICAL SHOCK!

⚠ *WARNING*

- Always observe these warnings when using the scanner. Failure to follow these warnings could result in injury due to fire or electric shock.
- Do not set up the scanner in a location close to flammable solvents such as alcohol and paint thinners.
- Do not cut, damage or modify the power cord, do not pull or bend the power cord excessively, and do not place heavy objects on the power cord.
- Never plug in or unplug the power cord with wet hands.
- Do not place objects on top of the scanner as such objects could fall and cause injury. Do not plug the scanner into a multi-socket adapter.
- Do not knot or bundle the power cord, and ensure that the plug is pushed fully into the power outlet.
- Use only the power cord supplied with the scanner.
- Do not attempt to disassemble or modify the scanner. There are no user-serviceable parts inside the scanner.
- Do not use flammable sprays or aerosols near the scanner.
- Switch the scanner off and unplug the power cord before cleaning the scanner.
- To clean the unit, use a cloth lightly dampened with water or a mild detergent.
- If the scanner emits an unusual noise, odor, smoke or sparks, or if the scanner will not function when switched on, immediately switch the scanner off, unplug the power cord and contact an authorized Canon dealer or service center.
- Before you move the scanner even a short distance, switch the scanner off and unplug the power cord.

⚠ *CAUTIONS*

- Do not set up the scanner on sloping, wobbly or otherwise unstable surfaces or in locations affected by excessive vibration. The scanner could cause injury if it falls over or slides off the surface.
- Do not block the ventilation slots as this could result in a fire due to the build up of heat inside the scanner.
- Do not place vessels containing liquids (cups, vases, etc.) or small metal objects (paper clips, staples, necklaces, etc.) on top of the scanner. Liquids or metal objects falling into the scanner could cause an electric shock or fire. If any liquids or metal objects fall into the scanner, immediately switch the scanner off, unplug the power cord and contact an authorized Canon dealer or service center.
- Do not set up the scanner in dusty or humid locations as this could result in an electric shock or fire.
- Do not place heavy objects on top of the scanner as such objects could fall and cause injury.

- Use only a power supply having the rated voltage. The use of other voltages could result in a fire or electric shock.
- Always unplug the power cord by grasping the plug itself. Pulling on the power cord can damage the cord so that the core wires are exposed or snapped and could cause a fire or electric shock.
- Do not use an extension power cord as this could cause a fire or electric shock.
- Keep the area around the power outlet free of obstacles to ensure that the scanner can be unplugged quickly in the event of an emergency.
- Take care not to tip water or flammable solvents such as alcohol, thinners or benzene into the scanner as this could result in a fire or electric shock.
- If the scanner will be left unused for a lengthy period, always unplug the scanner as a safety measure.
- Avoid touching internal scanner components when you perform routine cleaning or maintenance such as changing the lamp. Some internal components generate high temperatures or high voltages. To avoid injury such as burns or electric shocks, take care also that metal objects such as necklaces or bracelets do not come into contact with internal scanner components.
- To avoid injury when you are moving the scanner, take care not to put your hands on the metal protrusions on the underside of the scanner unit.

⚠ *HEAT CAUTIONS*

- Avoid touching internal scanner components when you perform routine cleaning or maintenance such as changing the lamp. Some internal components generate high temperatures or high voltages.

Features of the Microfilm Scanner 350

❑ Space saving

The economical design of this compact film scanner requires less space on your desk or work table.

❑ Automatic film polarity detection

The unit automatically detects the presence of negative film or positive film and sets itself accordingly.

❑ Uses a variety of film formats

A wide variety of roll/fiche carriers or auto carriers can be installed so you can use several film formats like microfiche, aperture card, and roll film.

❑ Easy operation

Operations like border removal and image trimming can be performed at the press of a few keys before scanning.

❑ Reader-Printer mode (CapturePerfect)

This is a mode which enables the scanner to perform the same Reader-Printer functions as a Microfilm printer does. Scanned images can be printed out directly through a designated printer.

❑ Multiple scanners compatible

The unit enables the user to connect multiple scanners to a personal computer and use a printer that is connected to the personal computer. (→ P.19, “Connecting to a Computer”)

❑ Expandability

By adding the optional DMP board, sold separately, in the Microfilm Scanner 350, the scanner can be used as a Digital Microfilm Printer (DMP).

Before you use the equipment, make sure you and your co-workers read the following warnings about using this equipment.

About operation modes

The following operating modes are available with this scanner. Select one of the following modes according to your system environment before using the scanner. For details, contact your service representative.

❑ Scanner mode

Using this scanner in connection with a personal computer, the image projected on the scanner's screen can be saved in the PC as image data, or printed out through a printer connected to the PC.

❑ DMP mode

By installing the optional DMP board in the scanner and connecting it to a DMP-dedicated printer, the MS350 can be used as a digital microfilm printer (DMP). The image projected on the scanner's screen can be printed out through the DMP-dedicated printer. In this case, no personal computer is required.

❑ Reader-printer mode

Using the CapturePerfect bundled with the MS350, the scanner that is set to the Scanner mode will operate as if it is set to the DMP mode. The image projected on the scanner's screen can be printed out directly through a printer connected to the personal computer. In this case, however, the image cannot be saved in the PC as image data.

❑ Multipule scanner mode

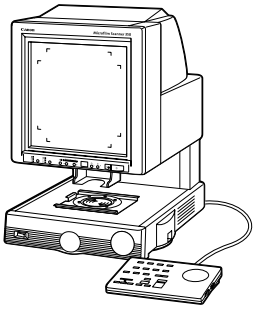
This mode is a part of the Reader-Printer mode function and enables you to use multiple scanners connected to one personal computer. (→P.19 "Connecting the computer")

When the DMP board is installed in this scanner, switch the "DMP mode" and "scanner mode" in the user mode before use. (→P.38 "USER MODE")

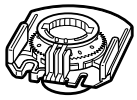
If the computer is connected with the user mode set to "DMP mode" when the DMP board is installed in this scanner and the MS350 is used as a scanner, the operation panel may not be operable or other problems may occur.

Unpacking: What's in the box?

When you unpack the box, use the checklist below to make sure that you have everything. If anything is missing, contact your supplier.

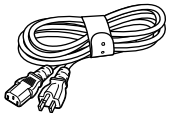


■ Microfilm Scanner 350
■ Keyboard

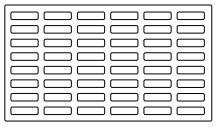


■ Lens holder

■ Setup CD
ISIS/TWAIN Driver
CapturePerfect



■ Power cord



■ Function Key label (→P.37 “Setting the function keys”)

■ Instructions (This manual)

■ Canon Software License Agreement

■ Warranty Card (U.S.A. and Canada only)

Options

In addition to the accessories provided in the product package, a number of optional accessories that are required for using the scanner, such as carriers and lenses, are also sold, as well as other optional accessories that can be purchased as needed. Contact your nearest authorized Canon Dealer for details.

■ Carriers (→P.15 “Preparing the carrier”)

Multiple carriers can be used for all types of film, including cartrige film, microfiche, jacket film and aperture cards.
Siuce the scanner does not come with a carrier, purchase the carrier best suited to your needs.

■ Installation Kit (→P.15“Preparing the carrier”)

Some carriers require an Installation Kit. Contact your nearest authorized Canon service outlet for details.

■ Lenses (→P.16 “Preparing the lens”)

One fixed-focus lens and five zoom lenses are available for the Microfilm Scanner 350. Since the scanner dose not come with a lens, purchase the lenses best suited to your needs.

■ DMP board

This optional board is required to use the scanner in the DMP mode.

■ Fileprint 250/450 (fiP.20 “Preparing the printer”)
These printers are DMP-dedicated printers that support the scanner when used in the DMP mode.

■ Framing Kit (→P.36 “Trimming”)

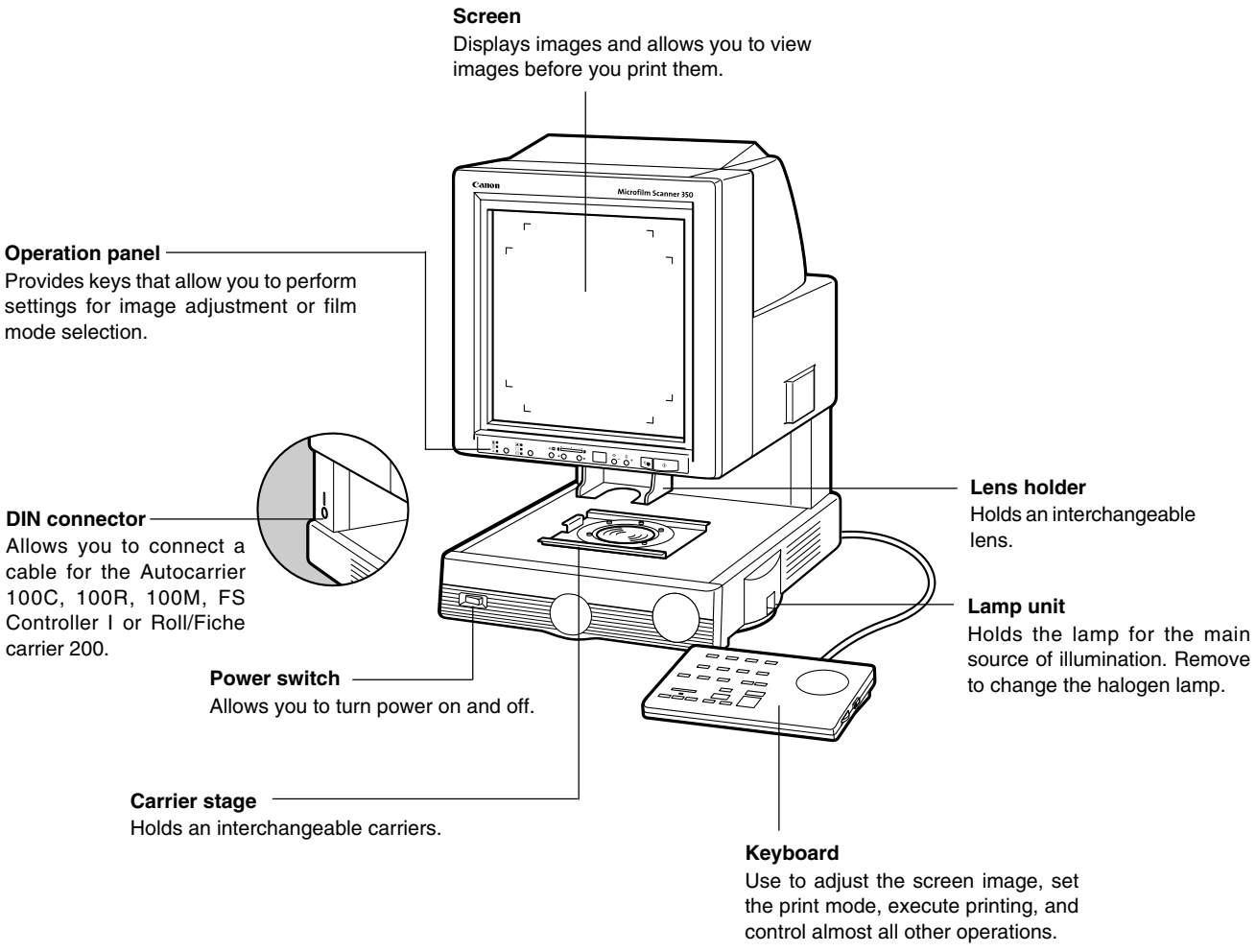
This optional unit allows you to selectibely scan a portion of the image projected onto the screen. This Framming Kit is required in order to use the Trimming function provided by the scanner.

■ Foot switch

This is an underfoot switch that provides the same function as the Start key on the operational panel.

Important parts and their functions

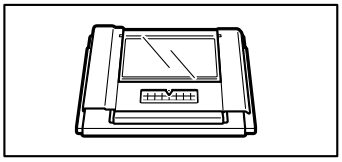
Before you use the unit, take a few minutes to become familiar with the names of the important parts.


Screen
Displays images and allows you to view images before you print them.
Operation panel
Provides keys that allow you to perform settings for image adjustment or film mode selection.
DIN connector
Allows you to connect a cable for the Autocarrier 100C, 100R, 100M, FS Controller I or Roll/Fiche carrier 200.
Power switch
Allows you to turn power on and off.
Carrier stage
Holds an interchangeable carriers.
Lens holder
Holds an interchangeable lens.
Lamp unit
Holds the lamp for the main source of illumination. Remove to change the halogen lamp.
Keyboard
Use to adjust the screen image, set the print mode, execute printing, and control almost all other operations.
Canon
Microfilm Scanner 350

Preparing the carrier

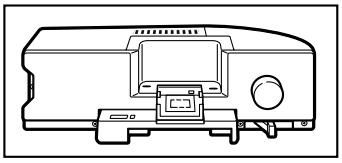
This is a list of all the carriers that can be installed and used with the Microfilm Scanner 350. For more details about these options, contact your supplier. For details about installation and operation, refer to the instructions provided with each auto carrier.

The Auto Carrier 100C, 100M and 100R and the FS Controller I and Roll/Fiche carrier 200 require an optional Installation Kit.



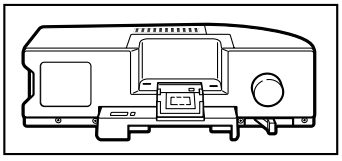
■ Fiche Carrier 190RII

A microfish carrier which allows viewing of fiche, jackets, or aperture cards up to 105 mm x 190 mm.



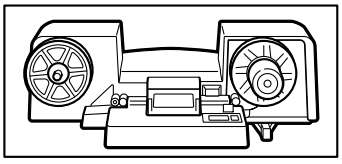
■ Autocarrier 100C (AC100C)

A motorized auto carrier for 16 mm cartridge films (ANSI, ANSI ENCLOSED*1, Kodak Ektamate, 3M) that features fast autoloading and high speed film transport.



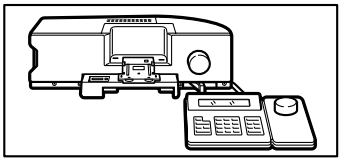
■ Autocarrier 100M (AC100M)

A motorized auto carrier for 3M or TUSCAN M-Type*2 cartridges that features fast autoloading and high speed film transport.



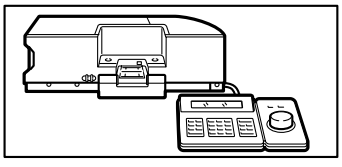
■ Autocarrier 100R (AC100R)

A motorized auto carrier for 16 mm or 35 mm film wound on standard open reels.



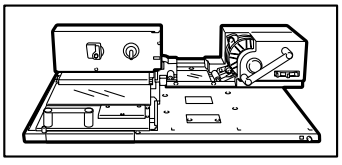
■ FS Controller I

A motorized auto carrier for 16 mm cartridge films (ANSI, Kodak Ektamate, 3M). This carrier is required for reading film marked with blips for automated image search and retrieval.



■ FS Controller III

A motorized auto carrier for the new 16 mm cartridge films (ANSI, Kodak Ektamate, 3M). This carrier is required for reading film marked with blips for automated image search and retrieval.



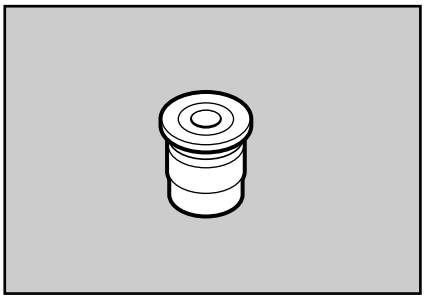
■ Roll/Fiche Carrier 200

A motorized fiche auto carrier for either fiche, jacket, or aperture card format film, 16mm/35mm film standard open reels or 3M, TUSCAN M-Type*2 cartridges.

*1 ANSI ENCLOSED cartridge is defined as ANSI MS-15.
*2 TUSCAN M-Type is a TUSCAN cartridge with a 3M-type core.

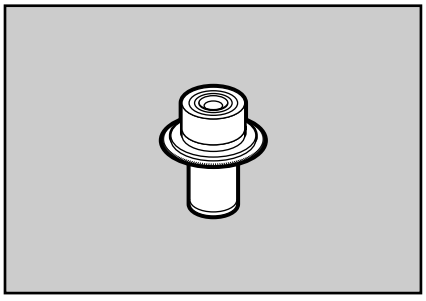
Preparing the lens

The following types of lenses are available.



Fixed lens

HX7 (x7)

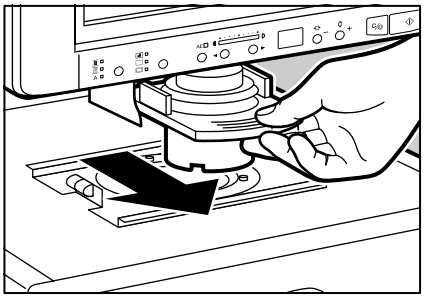


Zoom lenses

HZ01 (x9.5 to x16)
HZ02 (x16 to x32)
HZ03 (x30 to x55)
HZ04 (x20 to x48)
HZ05 (x10 to x24)

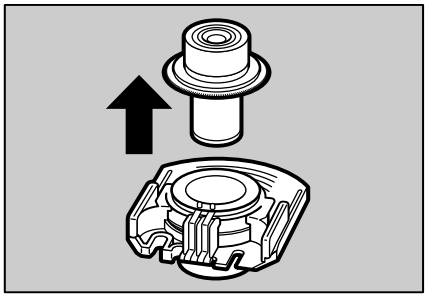
Switching the lens

Follow the procedure below to install or exchange lenses.

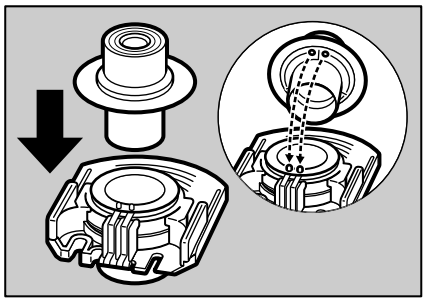


1. If a lens is already installed, grasp the edge of the holder and slide it out of the unit.

2. Gently pull the lens holder all the way out.

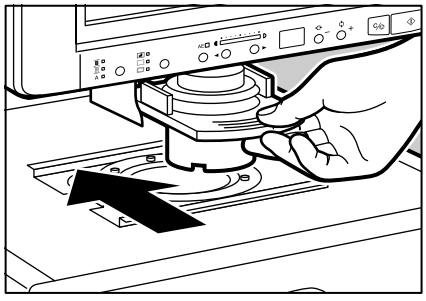


3. Use one hand to support the base of the holder, and the other to lift and remove the lens. Proceed carefully, making sure that the lens does not fall out.



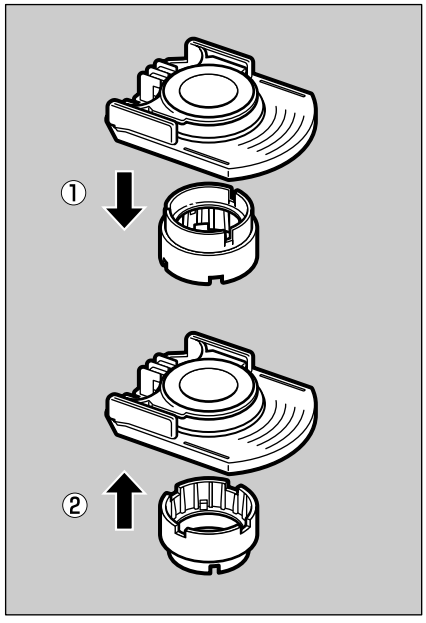
4. Turn the light adjustment dial to the left or right to adjust the light intensity of the screen. Adjust the light intensity to the type of lens installed.

Do not touch the contact area with your hands.



5. Slide the lens holder back into the unit. Support the holder carefully so that the lens does not fall out.

6. Push the holder in until it clicks into place.



If you are using the FS Controller I, remove the lower part of the lens ① then reverse it and attach it again ②.

Preparing the computer (scanner mode)

In order to use the Micofilm Scanner 350, your computer must satisfy the following system requirements:

- IBM PC/AT-compatible that meats the following specifications:
  - Intel Celeron 733MHz or faster
  - Main memory: 256 MB or more (recommended)
  - Hard disc space: 400 MB or more
- Recommended SCSI boards
  - Adaptec AHA-2930U
  - Adaptec AHA-2940AU
  - Adaptec ASC-19160
  - Adaptec ASC-29160
- SCSI cable
  The SCSI connector on the scanner is a half-pitch 50-pin connector (pin-type). Check the shape of the connector for the SCSI board on the computer or the SCSI device to be connected to the computer, and prepare a SCSI cable that is compatible with this unit.
- Display that is capable of resolution of 1024 x 768 (XGA) or better (recommended)
- One of the following operating systems, running normally:
  - Microsoft Windows 95
  - Microsoft Windows 98
  - Microsoft Windows Me
  - Microsoft Windows NT 4.0 Workstation
  - Microsoft Windows 2000 Professional
  - Microsoft Windows XP
- ISIS-compatible or TWAIN-compatible application software that runs normally under your operating system

If your CPU, memory or SCSI board does not meet the recommended specifications, you may experience problems such as slow scanning speed.

- Be sure to allocate sufficient virtual memory.
- Depending on the application software that you are using, the device driver provided may not operate, or you may not be able to use the functions described in this guide.
- Make sure that the device driver and application software that you will be using are compatible with your PC, the system configuration, and the type of SCSI board that you are using.
- The ISIS/TWAIN driver provided with the scanner is not necessarily compatible with all ISIS-compatible or TWAIN-compatible application software. For details, contact your application software dealer.

Connecting the computer

Connection of the SCSI cable to the main unit and the specification of the SCSI ID and other setting should be done by the supervising service personnel. To change the SCSI ID or any other connection settings, please contact your service provider.

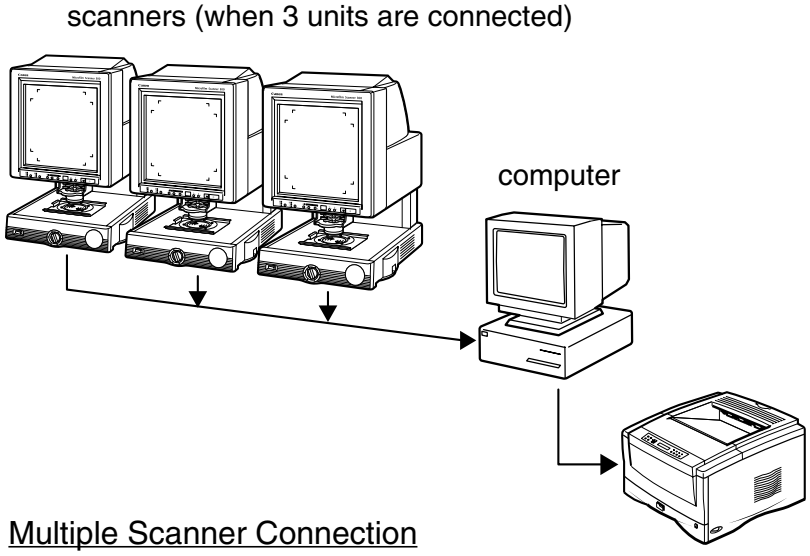
At shipment, the SCSI ID for the scanner is set to 2 and the terminator setting is OFF. To change the SCSI ID or any other connection settings, please contact your service provider.

Connecting multiple scanners to a computer

Multiple (up to 7) scanners can be connected to a computer in a daisy chain.

- Each of the connected scanners is identified with a SCSI ID.
- The multiple scanner connection is valid only when CapturePerfect software is started up in the Reader/Printer mode. (→P.29 “About the Reader/Printer Mode”)
- All settings and operation of the scanner most be performed through the operation panel on the main body.

The entire length of the SCSI cable must be within 6m.

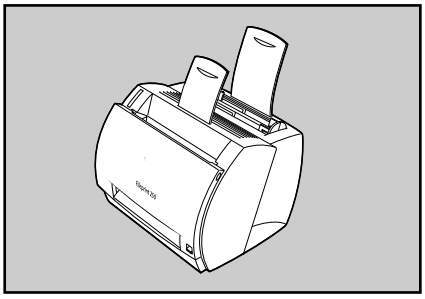


Multiple Scanner Connection

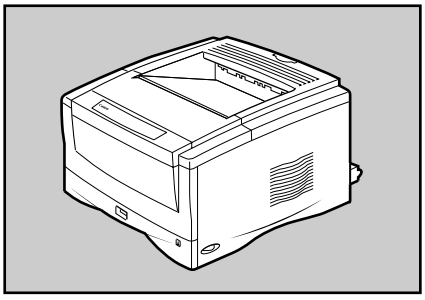
Preparing optional printer (for the DMP mode)

This is a list of all the optional printer that can be installed and used with the Microfilm Scanner 350. For more details about these options, contact your supplier. For details about installation and operation, refer to the instructions provided with each printer.

- Connecting a printer to the scanner should be performed by a service representative.
- For preparation of the printer, refer to the Fileprint 250 or Fileprint 450 instructions.



Canon Fileprint 250

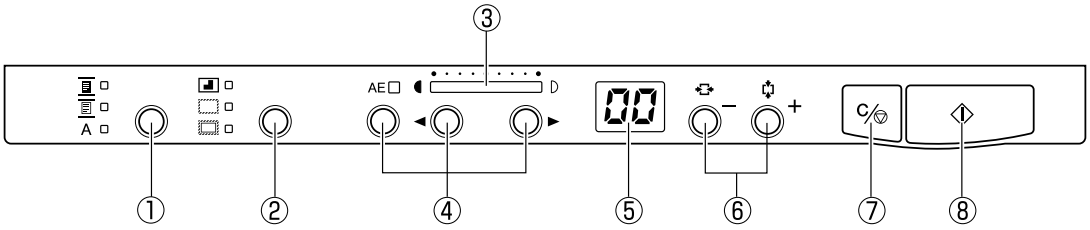


Canon Fileprint 450

Operation panel and keyboard keys

Operation panel keys

This is a summary of the keys on the operation panel.



① Negative/Positive key

Three settings are available:

( ) In negative film mode produces positive output from negative film images.

( ) In positive film mode, produces positive output from positive images.

(**A**) In automatic mode, selects the mode based on the type of film detected.(→P.34)

② Trimming/Border key

Use this key to trim the image to be scanned or to remove the black border around the image.(→P.35)

③ Brightness indicator

Shows the brightness adjusted using the brightness adjustment key.

④ Brightness adjustment keys

Use the ◀ or ▶ key to adjust brightness of the image manually, or the use AE key to adjust it automatically. In the DMP mode, this applies to brightness for printing.

⑤ Print/Error Display

Displays the number of prints (01 to 99) in case of the Reader-Printer mode. Also displays error message(User and Service releated).

⑥ Print number setting key

Use these keys to set the number of prints to make for each image in the Reader-Printer mode or the DMP mode (→P.11). Also use them to set various settings or confirm the SCSI ID of the scanner.

⑦ Clear/Stop key

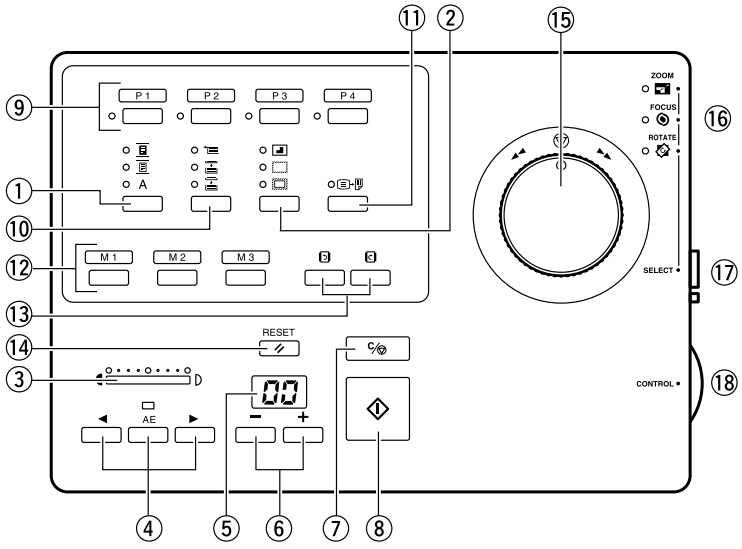
Stops scanning or resets the number of prints. Also defines an area for trimming, or defines a specified time for the power saver mode.
When the scanner is connected to the Fileprint 450 and used in the DMP mode, this key is also used to switch to the cassette select mode (→P.41).

⑧ Start key

In the case of the Scanner mode: press this key to start scanning with the “Panel Start” set to on in the application, or to start scanning in the Reader-Printer mode (→P.11).
In the case of the DMP mode: press this key to start printing. The Print/Error display stays blinking from the time the key is pressed until the time scanning begins.

Keyboard keys

This is a summary of the keyboard keys.



⑨ Function keys

The following functions are assigned on the respective keys before factory shipping. For details, refer to P.37 “Setting the function keys.”

P1: DATE
P2: NOTE
P3: PICTURE
P4: SHARPNESS

⑩ Cassette Select key

Selects paper cassette for printing when the scanner is connected with the Fileprint 450.

⑪ Auto Rotate key

Rotates the image 90 degrees for printing.

⑫ Zoom keys

Use these keys to register zoom settings. During normal operation, you can immediately switch to one of the registered settings by pressing the key.

⑱ Rotate keys

Press this key to rotate the image left or right by 90 degrees.

⑯ Reset key

Use this key to restore or change default settings.

⑯ Film Control knob (optional)

Transports film through a motorized carrier. Turn the knob right to advance the film forward, or left to rewind it.

⑯ Adjust Mode indicators

The illuminated lamp identifies the type of image adjustment you can make. You can switch the adjustment type by pressing the Image Adjust Select key.

⑰ Image Adjust Select key

Selects the type of adjustment you can make: Zoom magnification, Focus, or Rotation.

⑱ Image Adjust Control dial

Use this dial to adjust the magnification, focus or rotation.

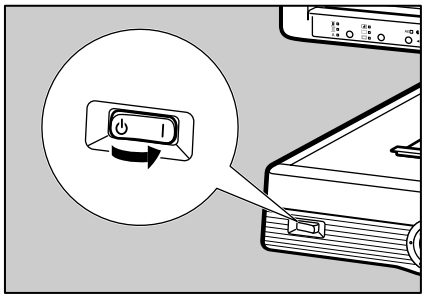
TURNING THE POWER ON/OFF

Follow the procedures described below when turning the power on and off.

Turning the power on

Follow the procedure below to turn the unit on.

If an FS Controller III is installed on the scanner, switch the FS Controller III on first.



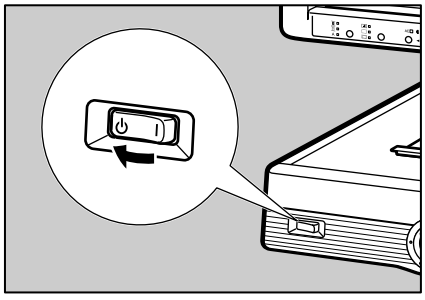
1. On the front of the main unit, locate the power switch on the lower left corner then press the I side of the switch to turn the power on.

2. Turn on the power switch of the computer and printer. (if nrrded)

Switch on any SCSI devices connected to the computer before you switch on the computer.

Turning the power off

Follow the procedure below to turn the unit off.



1. Turn the computer off.

2. To turn the unit off, press the ⏻ side of the power switch.

If the scanner will not be used for a lengthy period, unplug the power cord as a safety measure.

Scanner recognition

If you are using Windows 95/98/Me/2000 or Windows XP, then the first time that you turn on your computer after connecting this scanner to your computer, Windows Plug and Play automatically displays a screen prompting you to install the scanner driver. Follow the instructions on the screen to proceed with the installation.

■ If you are using Windows 95, the "Found New Hardware" dialog box appears.

1. Select "Driver from disk provided by hardware manufacturer" and then click the OK button.
2. Load the setup disc into your CD-ROM drive.
3. In the "Copy manufacturer's files from" box, type "D:\INF\Win95" (where "D" is the name of your CD-ROM drive), and then click the OK button.

■ If you are using Windows 95 (OSR2), the "Update Device Driver Wizard" dialog box appears.

1. Click the Next button.
2. Click Other locations.
3. Load the setup disc into the computer's CD-ROM drive.
4. Type "D:\INF\Win95" (where "D" is the drive letter assigned to your CD-ROM drive) and then click the OK button.
5. Click the Finish button.

■ If you are using Windows 98, the "Add New Hardware Wizard" dialog box appears.

1. Click the Next button.
2. Select "Search for the best driver for your device. (Recommended)." and then click the Next button.
3. Load the setup disc into the computer's CD-ROM drive.
4. Select "Specify a location", type "D:\INF\Win98" (where "D" is the drive letter assigned to your CD-ROM drive) and then click the Next button.
5. Click the Next button.
6. Click the Finish button.

■ If you are using Windows Me, the "Add New Hardware Wizard" dialog box appears.

1. Select "Specify the location of the driver (Advanced)" and then click the Next button.
2. Load the setup disc into the computer's CD-ROM drive.
3. Select "Search for the best driver for your device. (Recommended)." and then select "Specify a location". Next, type "D:\INF\Win98" (where "D" is the drive letter assigned to your CD-ROM drive) and then click the Next button.
4. Click the Next button.
5. Click the Finish button.

■ If you are using Windows 2000 Professional, the "Found New Hardware Wizard" dialog box appears.

1. Click the Next button to proceed to the "Install Hardware Device Drivers" screen.
2. Select "Search for a suitable driver for my device (recommended)" and then click the Next button to proceed to the "Locate Driver Files" screen.
3. Select "Specify a location" and then click the Next button.
4. Load the setup disc into the computer's CD-ROM drive.
5. Type "D:\INF\Win2000" (where "D" is the drive letter assigned to your CD-ROM drive) and then click the OK button.
6. In the "Driver Files Search Results" screen, click the Next button.
7. If the message "Digital Signature Not Found" appears, simply click Yes to continue installation.
8. On the "Completing the Found New Hardware Wizard" screen, click the Finish button.

■ If you are using Windows XP, the "Found New Hardware Wizard" dialog box appears.

1. Load the setup disc into the computer's CD-ROM drive.
2. In the "Welcome to the Found New Hardware Wizard" screen, select "Install from a list or specific location (Advanced)", and then click the Next button.
3. Select "Search for the best driver in these locations", and then clear the "Search removable media (floppy, CD-ROM...)" check box. Select "Include this location in the search", type "D:\INF\Win2000" (where "D" is the drive letter assigned to your CD-ROM drive), and then click the Next button.
4. Click the Continue Anyway button in the "Hardware Installation" dialog box.
   Although a message appears indicating that the driver "has not passed Windows logo testing", simply continue operation.
5. Click the Finish button in the "Completing the Found New Hardware Wizard" screen.

ABOUT THE SOFTWARE

Before installing the software, be sure to open and read the Readme.txt file on the setup disc.

The setup disc included with the scanner contains the following software:

■ ISIS/TWAIN driver
This driver allows this scanner to be used with ISIS-compatible application software or TWAIN-compatible application software. The driver must be installed in order to be able to use the scanner.

■ CapturePerfect
This is a TWAIN-compatible scanning software application. Install this application if necessary.

Installing the ISIS/TWAIN driver

Follow the procedure described below to install the ISIS/TWAIN driver.

If another ISIS-compatible driver is already installed in your computer, you must back up the files listed below. These files may be overwritten when you install this ISIS/TWAIN driver.

C:\Windows\System\pix*.dll

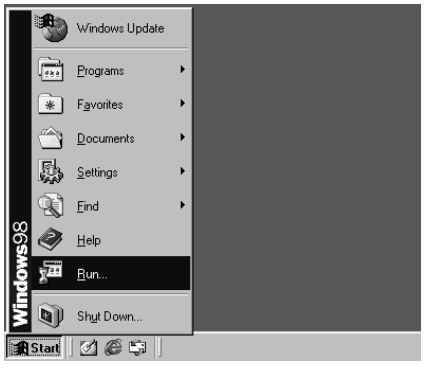
C:\Windows\PixTran*.*

The name of the “\Windows” and “\Windows\System” folder varies, depending on which version of Windows you are using. Substitute accordingly in the above folder names with the folder names for Windows used in your system.

1. Turn on your computer. Windows starts.

If you are using Windows NT 4.0 Workstation, Windows 2000 Professional, or Windows XP, be sure to log on as a user with administrator privileges.

2. Load the setup disc in the computer's CD-ROM drive.



3. On the Start menu, Click Run.

The Run dialog box appears.

4. In the Open box, type “D:\Driver\Setup.exe” (where “D” is the drive letter assigned to your CD-ROM drive) and then click the OK button.

   The Installer starts.

5. Follow the instructions on the screen and complete the installation process.

Installing CapturePerfect

Follow the procedure described below to install CapturePerfect.

1. Turn on your computer. Windows starts.

   If you are using Windows NT 4.0 Workstation, Windows 2000 Professional, or Windows XP, be sure to log on as a user with administrator privileges.

2. Load the setup disc in the computer's CD-ROM drive.

3. On the Start menu, click Run.

   The Run dialog box appears.

4. In the Open box, type “D:\CapturePerfect\Setup.exe” (where “D” is the drive letter assigned to your CD-ROM drive) and then click the OK button.

   The Installer starts.

5. Follow the instructions on the screen and complete the installation process.

   Selectable languages are “English” or “Japanese.”

Using the software

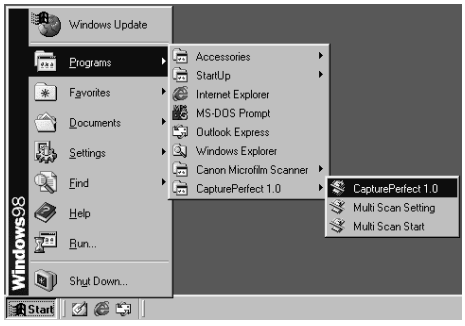
Using the ISIS/TWAIN Driver

The ISIS/TWAIN driver help menu describes how to use the ISIS/TWAIN driver. To access the ISIS/TWAIN driver help, click Start - Programs (when using Windows XP, click All Programs) - Canon Document Scanner - Canon MS300/350 Help, or click the Help button displayed in the dialog box.

Using CapturePerfect

Follow the procedure described below to start and close CapturePerfect.

The basic method for scanning using CapturePerfect is described in the CapturePerfect help. From the Help menu on the CapturePerfect menu bar, click Help, then refer to the explanation of how to use CapturePerfect.

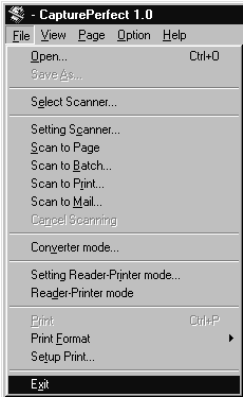


■ Starting CapturePerfect

1. Turn on the scanner.
2. Turn on your computer. Windows starts.
3. Click the "Start" button, and then click "Program" (when using Windows XP, "All programs") – "CapturePerfect" – "CapturePerfect."

   "CapturePerfect" starts up.

There are two ways to start up the CapturePerfect, one in the normal mode and the other in the Reader-Printer mode. For how to start it up in the Reader-Printer mode, see "About the Reader-Printer Mode" (→P.29).



■ Closing CapturePerfect

1. On the File menu, click Exit.

   CapturePerfect closes.

When the scanner is scanning or some operation is pending after scanning has been started (such as when scanning has been interrupted), the mouse pointer changes to an hourglass. If the mouse pointer appears as an hourglass while the scanner is not scanning, the previous scanning operation has not been completed. On the File menu, click Cancel Scanning to cancel hourglass display, then close CapturePerfect.

About the Reader-Printer mode

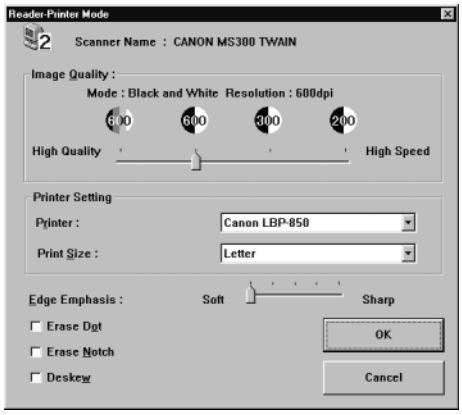
When the scanner is set to the Reader-Printer mode, all the settings and operation of the scanner must be performed through the operation panel on the main body. For how to operate the scanner, see “Setting the scanner” (→P.33).

- The Reader-Printer mode is a mode in which the scanner can perform the same functions as an ananlog Reader-Printer does. In the Reader-Printer mode, images scanned by the scanner can be directly printed out through a printer that is designated by the CapturePerfect. (Note, however, that the scanned images will not be saved.)
- In the case of multiple scanners connected to one personal computer, only images scanned by one of those scanners that is currently operating will be printed out. (No special operation to select a scanner is necessary.)

Starting up Reader-Printer mode

There are two ways to start up the Reader-Printer mode, one from the CapturePerfect menu, and the other directly from a shortcut (“Multi Scan Start”) registered in the program menu.

■ Setting the Reader-Printer mode



1. Select “Reader-Printer Mode Settings” in the “File” menu and display the “Reader-Printer Mode Settings” dialog.

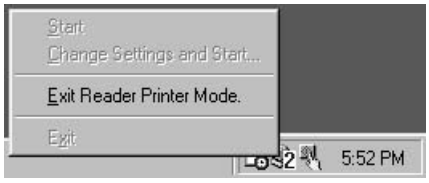
   For the Reader-Printer Mode Settings, refer to the CapturePerfect Help.

2. Click “OK” when settings are completed.

■ Starting up the Reader-Printer mode

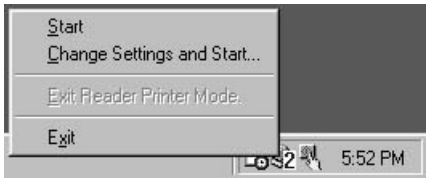
1. Select “Reader-Printer Mode” in the “File” menu to start up the Reader-Printer mode.

- When the Reader-Printer mode once starts up, the CapturePerfect main screen is going to reside in the task tray as the icon.
- The number appearing on the icon indicates the SCSI ID that the scanner is connected to.
- All settings and operation of the scanner can mostly be performed through the operation panel on the main body.



■ Exiting the Reader-Printer mode

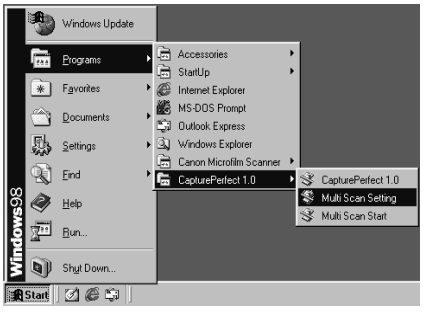
1. To change settings of the Reader-Printer mode, click the icon in the task tray with the right mouse button, then click "Exit Reader-Printer mode."



2. Again, click the icon in the task tray with the right mouse button, then click "Exit application."

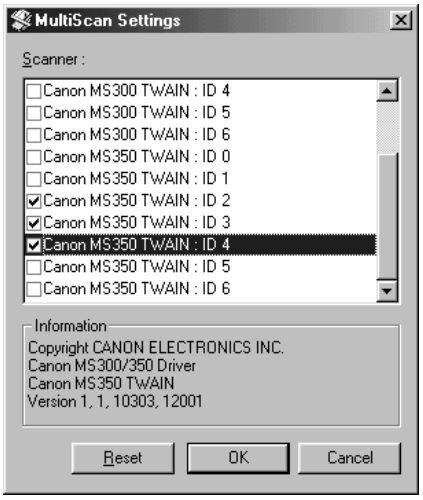
To restart the Reader-Printer mode, click "Start," and to change settings, click "Change settings and start."

■ Starting up CapturePerfect in the Reader-Printer (multiple scanner) mode



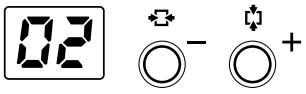
1. Click the "Start" button, and then click "Program" (when using Windows XP, "All programs") – "CapturePerfect" – "MultiScan Setting."

"MultiScan Settings" starts up.

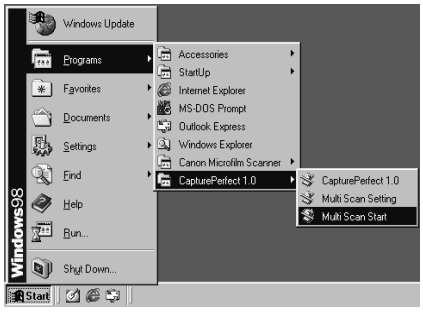

MultiScan Settings
Scanner :
Canon MS300 TWAIN : ID 4
Canon MS300 TWAIN : ID 5
Canon MS300 TWAIN : ID 6
Canon MS350 TWAIN : ID 0
Canon MS350 TWAIN : ID 1
Canon MS350 TWAIN : ID 2
Canon MS350 TWAIN : ID 3
Canon MS350 TWAIN : ID 4
Canon MS350 TWAIN : ID 5
Canon MS350 TWAIN : ID 6
Information
Copyright CANON ELECTRONICS INC.
Canon MS300/350 Driver
Canon MS350 TWAIN
Version 1, 1, 10303, 12001
Reset
OK
Cancel

2. Check the SCSI ID that the scanner is connected to, select the number same as the SCSI ID, and then click the OK button.

If using the Windows NT 4.0 Workstation, Windows 2000 Professional or Windows XP with an account without Administrator authorization, change to an account with authorization and log on so that CapturePerfect can be restarted. Using an account without Administrator authorization, the "MultiScan Setting" settings are invalid.



By simultaneously pressing the plus and minus keys for setting the number of copies, the SCSI ID of the currently connected scanner is indicated blinking in the display.



3. Click the "Start" button, and then click "Program" (when using Windows XP, "All programs") – "CapturePerfect" – "Multi Scan Start."

"CapturePerfect" starts up in the Reader-Printer mode.

- When the Reader-Printer mode starts up, the CapturePerfect main screen is going to reside in the task tray as the icon with the SCSI ID that the scanner is connected to.
- In the case of multiple scanner mode in which multiple scanners are connected, the number of connected scanners will be indicated. Note, however, that even if multiple scanners, not selected by the CapturePerfect Tool, are connected, those scanners will not be indicated.
- In the multiple scanner mode, if data is output from multiple scanners to a single printer at the same time, images scanned by the multiple scanners are printed out randomly.

Uninstalling the software

Follow the procedure described below to uninstall the ISIS/TWAIN driver and CapturePerfect.

If you are using Windows NT 4.0 Workstation, Windows 2000 Professional, or Windows XP, be sure to log on as a user with administrator privileges.

1. On the Start menu, point to Settings and click Control Panel.
Note
If you are using Windows XP, on the Start menu, click Control Panel.

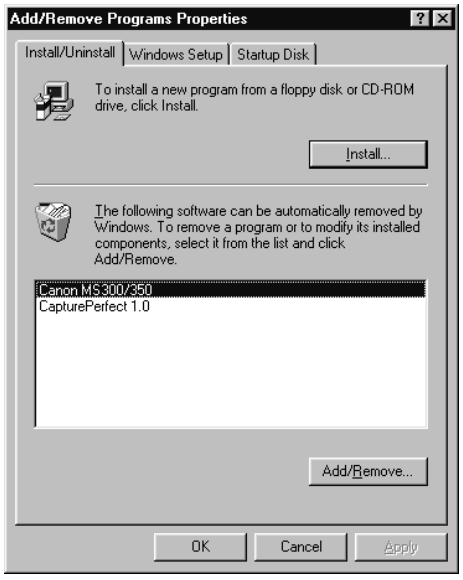
The “Control Panel” window is displayed.

2. Double-click the “Add/Remove Programs” icon.

If you are using Windows XP, click the “Add or Remove Programs” icon.

The “Add/Remove Programs Properties” dialog box is displayed.

If you are using Windows XP, the “Add or Remove Programs” dialog box is displayed.


Add/Remove Programs Properties
Install/Uninstall
Windows Setup
Startup Disk
To install a new program from a floppy disk or CD-ROM drive, click Install.
Install...
The following software can be automatically removed by Windows. To remove a program or to modify its installed components, select it from the list and click Add/Remove.
Canon MS300/350
CapturePerfect 1.0
Add/Remove...
OK
Cancel
Apply

3. Select “Canon MS300/350” or "CapturePerfect" from the list, and then click the Add/Remove button.

If you are using Windows XP, click the Change/Remove button.

The “Confirm File Deletion” dialog box is displayed.

4. Click the Yes button to start the uninstaller.

Follow the instructions on the screen and complete the uninstallation process.

SETTING THE SCANNER

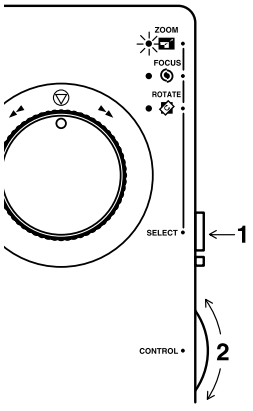
In the Scanner mode, the image projected on the scanner's screen can be saved by the connected personal computer, or printed out through a printer connected to the PC. Actual settings and operations for scanning differ depending on the application you use.
In the DMP mode, the image projected on the scanner's screen can be printed out through a printer connected to the scanner.
Here below explained are various functions that can be set on the scanner main unit.

Loading the film

Load the auto carrier with the film you want to view. For details about the auto carrier installation, see the instructions you received with the auto carrier.

Adjusting the image

Follow the procedure below to adjust the image on the screen. Read and perform this procedure correctly to attain a crisp image on the screen and a clear scanned image.



■ Enlarging and reducing image size

1. Press the Image Adjust Select key on the operation keyboard to illuminate the [ZOOM] lamp.
2. Turn the Image Adjust Control dial to adjust the image size. Turn the dial right to enlarge the image, or left to reduce it.

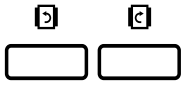
> You can register zoom settings to the Memory keys on the operation keyboard. You can then use these keys to recall the registered zoom settings at any time (→ P.46, "Registering the zoom values").

■ Focusing the image

1. Press the Image Adjust Select key on the operation keyboard to illuminate the [FOCUS] lamp.
2. Turn the Image Adjust Control dial left or right to obtain proper focus.

■ Arbitrary rotation

1. Press the Image Adjust Select key on the operation keyboard to illuminate the [ROTATE] lamp.
2. Turn the Image Adjust Control dial to rotate the image. Turn the dial right to rotate the image to the right, left to rotate it to the left.

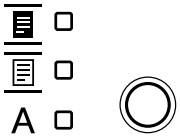


■ 90 degree rotation

1. Press the rotation key, either left or right, on the operation keyboard so that the image can be rotated 90 degrees in the direction shown by the arrow on the key.

Selecting the polarity

This setting selects the film polarity (possitive or negative). Press the Negative/Positive key on the operation panel to select the film polarity.

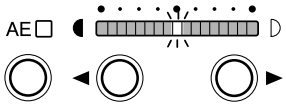


	Negative	Prints positive from negative film.
	Positive	Prints positive from positive film.
A	Auto	Automatically detects the type of film in use and prints a positive image. If you select Auto, the Negative or Positive lamp blinks to tell you which type of film has been detected.

The HZ-05 zoom lens has no function to automatically switch between Negative and Positive. When using the HZ-05 zoom lens, always use the Negative/Positive switching key to select ( ) Negative or ( ) Positive.

Do not use Auto for an image with a grey or light border (where black and white may be difficult to distinguish), or if you intend to remove the border from the image, trim the image, or define the area on the image with the other keys. If you intend to use these special functions, set Negative or Positive manually.

Brightness adjustment



Adjust the brightness of the image during scanning. The brightness can be adjusted automatically (AE) or manually.

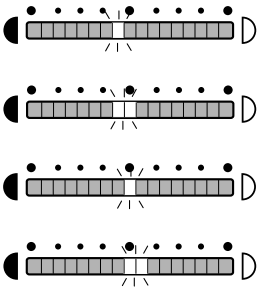
Switching the operation modes can be also set in the user mode.

Automatic adjustment

Press the **AE** key on the operation panel. The **AE** key lights and the image brightness is adjusted automatically during scanning.

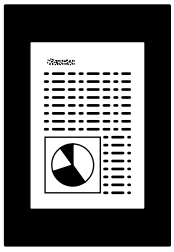
When automatic adjustment is selected, you can make fine adjustment to the brightness through 17 level by pressing the brightness adjustment key (◀ or ▶). Moving the indicator to the right brightens the image by fine increments, and moving it to the left darkens the image by fine increments.

Manual adjustment



When the **AE** key is lit, you can use the brightness adjustment key (◀ or ▶) to adjust the brightness of the scanned image. Moving the indicator to the right brightens the scanned image and moving it to the left darkens the scanned image.

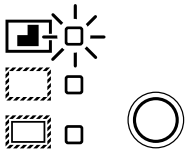
In manual adjustment, the brightness can be adjusted through 33 levels, as shown in the figure at left.



Trimming/border removal settings

When an image on negative film is scanned and projected onto the scanner screen, the area outside the image appears as a black border around the image. The Automatic Border Removal function can be used to remove this black border around the scanned image.
Trimming allows you to restrict scanning to a specified area of the image.
Border removal allows you either to remove all the black border around the image or to leave a narrow black margin around the image.

- If Positive ( ) is selected as polarity, the Automatic Border Removal function cannot be carried out.
- In the ISIS/TWAIN Driver or CapturePerfect, “Trimming” is called “Framing”, and “Automatic Border Removal” is called “Auto-detection”.



Trimming

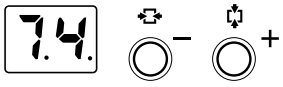
Press the border key on the operation panel until the ( ) indicator lights and then scan the image. Follow the procedure below to define the area to the image to be scanned.

Adjustment or modifications to the triming area should be made from the application software before scanning begins or while scanning is paused.

■ Defining an area for trimming

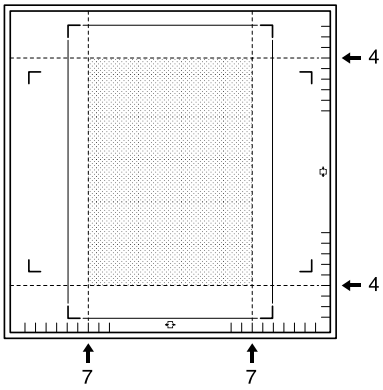
1. Press and hold down the Trimming/Border key for approximately 2 seconds until the lamp for trimming ( ) starts blinking.

The current area setting is shown in the display.



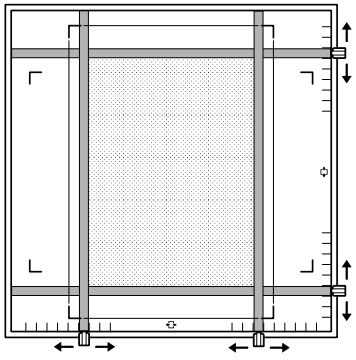
2. To adjust the area setting, press the Print Number Setting keys. The starting point or origin for defining the screen area is the lower right corner of the screen.

Plus key	Press to move in the vertical direction. The number in the Print display shows the current screen vertical coordinate.
Minus key	Press to move in the horizontal direction. The number in the Print display shows the current horizontal coordinate.



For example, the illustration shows the vertical set for **4** and the horizontal set for **7**. The shaded area is the area trimmed and selected for scanning.

3. To save the setting, press the Border Button. The setting remains in effect even after the power is turned off and turned again.

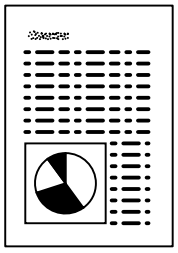


■ Using the area setting cursors (optional)

With the optional Framing kit installed, you can set an area for printing, using the guides on the right side and the bottom of the screen. The area framed by 4 cursors will be scanned.

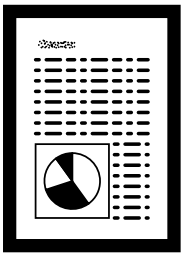
Border removal

Border removal allows you either to remove all the black border around the image or to leave a narrow black margin around the image.



■ Removing the entire border

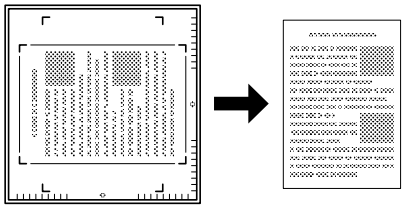
Press the border key on the operation panel until the (▭) indicator lights and then scan the image.



■ Leaving a margin around the image

Press the border key on the operation panel until the(▭) indicator lights and then scan the image. The margin is specified in the application software.

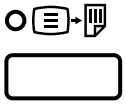
- Border removal may not operate correctly for images with ill-defined borders.
- This function cannot be used when any part of the image is outside the specified range.
- If multiple images are displayed on the screen at the same time, the wrong image may be scanned.
- This function can only operate if there is a clear area of at least 5 mm around the image.



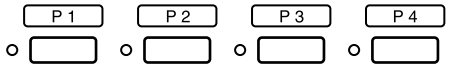
Using auto rotation

This function lets you rotate the image 90 degrees for printing.

To set the auto rotation print feature enabled, press the Auto Rotation key to illuminate the lamp. To reset it, press the Auto Rotation key once again to turn the lamp off.



Setting the function keys (DMP mode)

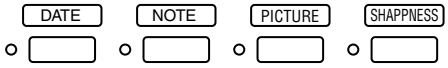


The following features are assigned to the respective function keys (P1 to P4) before factory shipping.

KEY	Feature
P1	Printing the date.
P2	Printing the preset note.
P3	Picture mode
P4	Sharpness

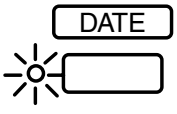
To use any of the assigned features, press and illuminate the key that a specific feature is assigned to before you start printing.
To reset the feature, press the same key once again to turn the lamp off.

- The features assigned to the function keys can be changed in the user mode. (→P.44, "Setting the function key")
- Please use the function key labels bundled with the scanner, pasting them on the respective keys.



Date stamp feature

In the DMP mode, the date can be printed on image printouts.



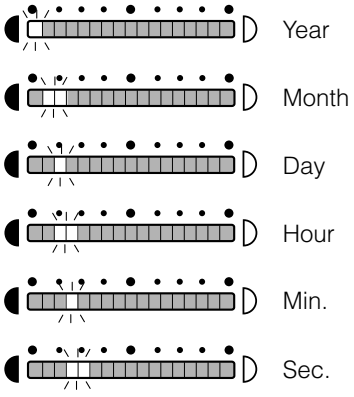
■ Setting the date stamp feature

1. Hold down the [DATE] key for about 2 seconds.

   As the [DATE] lamp, Brightness display and Print/Error display begin to blink, you can now begin to set various DATE settings.

2. Press the Brightness Adjustment (◀ or ▶) key to illuminate the corresponding LED to a mode to set.

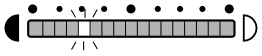
DATE / TIME



3. Press the Print Number Setting key (**+** or **–**) to set the [DATE, TIME].

Item	Display	Setting
Year	51 to 99	1951 to 1999
	00 to 50	2001 to 2050
Month	01 to 12	January to December
Day	01 to 31	1st to 31st
Hour	00 to 23	0 to 23
Minutes	00 to 59	0 to 59
Seconds	00 to 59	0 to 59

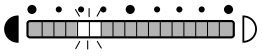
Stamp Location



4. Press the Print Number Setting key (**+** or **–**) to set the [Stamp Location].

Display	Setting
	Top left
	Top center
	Top right
	Bottom left
	Bottom center
	Bottom right

Stamp Format

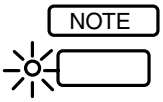


5. Press the Print Number Setting key (**+** or **–**) to set the [Stamp Format].

Display	Format	Print Example
00	Year/Month/Day	2002/08/31
01	Year/Month/Day Hr:Min	2002/08/30 21:15
02	Month/Day/Year	08/31/2002
03	Month/Day/Year Hr:Min	08/31/2002 21:15
04	Day/Month/Year	31/08/2002
05	Day/Month/Year Hr:Min	31/08/2002 21:15
06	Month Day Year	Aug 31 2002
07	Month Day Year Hr:Min	Aug 31 2002 21:15
08	Day-name Month Day Year	Thu Aug 31 2002
09	Day-name Month Day Year Hr:Min	Thu Aug 31 2002 21:15

6. When you have completed all settings, press the Clear/Stop key. The MS350 registers the new values, and returns to normal operating mode.

If you want to make a change in the setting, press the Brightness Adjustment (◀) key to go back to a setting you want to change, and then change the setting.



Note feature

This feature lets you include a short note on your print. You must enter the note into memory before making the print, as described below. The note can be changed later on.

- Maximum note length is 33 characters.
- The note is printed in the same location for the date. If you choose to print both the date and the note, the date appears first, then a space, and then the note.

Entering the note

The procedure below explains how to enter a note. The MS350 saves the note in non-volatile memory that is retained even while power is off.

The following table shows the characters that you can use for your note. You select each character by inputting the corresponding code value.

1. Hold down the NOTE key for about 2 seconds.

The [NOTE] lamp, Brightness display and Print/Error display begin to blink, indicating that you can now enter the note.

2. Confirm that the leftmost lamp on the brightness display is blinking.

3. Referring a table of the character codes shown below, press the Print Number Setting key (**+** or **–**) to select and display a character on the Print/Error display.

To select the letter A, for example, you would enter the code value 41.

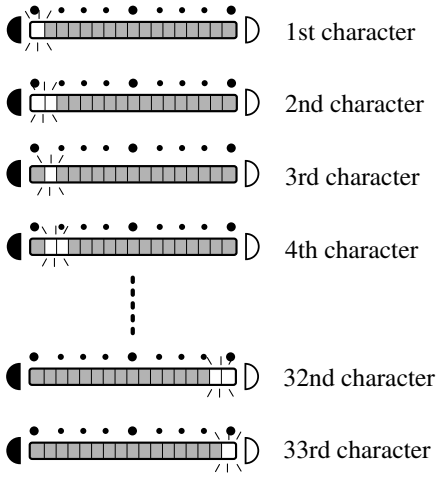
Code	20	21	22	23	24	25	26	27	28	29	2A	2B	2C	2D	2E	2F	Code 20 sets blank
Character		!	"	#	$	%	&	'	(	)	*	+	,	–	。	/	
Code	30	31	32	33	34	35	36	37	38	39	3A	3B	3C	3D	3E	3F	
Character	0	1	2	3	4	5	6	7	8	9	:	;	<	=	>	?	

Code	40	41	42	43	44	45	46	47	48	49	4A	4B	4C	4D	4E	4F	50	51	52	53	54	55	56	57	58	59	5A
Character	@	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z
Code	60	61	62	63	64	65	66	67	68	69	6A	6B	6C	6D	6E	6F	70	71	72	73	74	75	76	77	78	79	7A
Character	`	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o	p	q	r	s	t	u	v	w	x	y	z

Code	5B	5C	5D	5E	5F	7B	7C	7D	7E	7F
Character	[	\	]	^	—	{	¦	}	~	⌂

4. Press the Brightness Adjustment (▶) key once to move to the second letter of the note. Enter the letter code for the second letter, again using the plus (**+**) or minus (**–**) key.

5. Continue as described above until you have entered all the letters for your note.



- Maximum note length is 33 characters including spaces.
- The Brightness display shows your current location within the note, as described on the left.

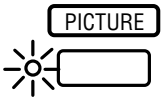
6. When you have finished entering the note, press the Clear/Stop key to save it. The MS350 writes the note into memory and returns to normal operating mode.

If you want to make a change in the setting, press the Brightness Adjustment (◀) key to go back to a setting you want to change, and then change the setting.

Setting the print mode

This section describes various print settings that you can use to control the quality and format of the printouts. Make the appropriate settings before you start printing.

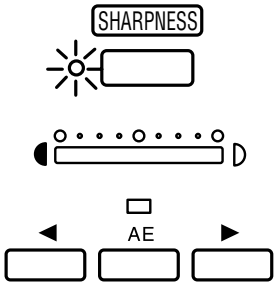
■ Picture mode



Use this mode for accurate printing of halftone graphic images. You can switch the mode on or off by pressing the Picture key on the operation keyboard. The lamp to the left of the key comes on to indicate that the scanner is in the Picture mode. To reset it, press the Picture key again to turn off the "Picture" lamp.

Automatic density adjustment (AE) does not function while the scanner is in the Picture mode.

■ Sharpness adjustment



Follow the procedure described below when you need to sharpen or soften the image.

1. Press the SHARPNESS key on the operation keyboard so that the [SHARPNESS] lamp begins to blink.

2. Press the right or left Brightness Adjustment key to sharpen or soften the image. You can set the sharpness to one of five levels. The Brightness display moves to reflect your new setting.

3. Press the SHARPNESS key once again to register the new setting.

Switching the operation modes

You can switch the operation mode (DMP mode or Scanner mode) of the scanner. Press the function key assigned as the [DMP] key so that the lamp comes on to switch to the DMP mode.

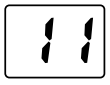
Printing (DMP mode)

The following describes the printing procedure in the DMP mode.

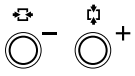
1. Make necessary settings on the main unit.
2. Select the paper size that you want to print on.

■ Using the Fileprint 250

If using the Fileprint 250, select paper size set on the Paper Tray.
(1) Press the Cassette Select key or the Clear/Stop key for about 3 seconds to enter the paper size setting mode. The current paper size then appears on the Print/Error display.



Display	Setting
b4	A4
11	Letter
b5	B5
14	Legal



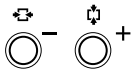
(2) When you press the plus (**+**) key of the Print Number Setting key, the display changes as **A4→11→b5→14** in due order, and if you press the minus (**–**) key, **14→b5→11→A4** in due order.
(3) Press the Clear/Stop key to define the paper size that you want to use.

■ Using the Fileprint 450

If using the Fileprint 450, select a paper cassette or the pickup tray to use.

(1) Press the Clear/Stop key for about 5 seconds to enter the paper -cassette select mode. The current paper cassette then appears on the Print/Error display.

Keyboard Display	Print/Error Display	Tray selection
	C0	Multipurpose tray selected
	C1	Upper cassette selected
	C2	Lower cassette selected



(2) When you press the plus (**+**) key on the Print Number Setting key, the display changes as **C0→C1→C2→C0** in due order, and if you press the minus (**–**) key, **C0→C2→C1→C0** in due order.
(3) Press the Clear/Stop key to define the paper size that you want to use. The Print/Error display then returns to “01.”

If using the paper tray, set paper size of the paper tray.

(1) Press the Cassette Select key for about 2 seconds to enter the paper cassette select mode. When the paper tray lamp ( ) begins to blink, you can now set paper size. At that time, the current paper size appears on the Print/Error display.

(2) Press the Print Number Setting key (**+** or **–**) to set the appropriate paper size.
The size indicator will be displayed on the Print/Error display as follows:

Display	Setting
b4	A4
11	Letter
b5	B5
14	Legal

(3) Press the Cassette Select key to complete the setting.

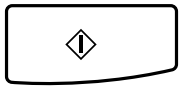
3. Set the number of prints that you want to make (1 to 99).

Press the Print Number Setting key on the operation panel or the operation keyboard to set the number of prints. If you press the plus (**+**) key, the number increases, and if you press the minus (**–**) it decreases.

If you want to change the number you have already set, press the Clear/Stop key (C/▽) to reset the number to 1, and then set the number of prints you want to make once again.

4. Make the Print mode settings if required.

5. Press the Print key on the operation panel or the operation keyboard to start printing.



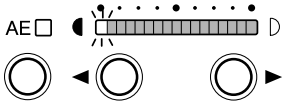
You can cancel printing at any time by pressing the Stop/Clear key (C/▽).

USER MODE

In the user mode, you can arbitrarily change the settings of the following features:

- Power saver mode
- Hi-speed scanning mode
- Scanning resolution
- Cleaning mode
- Switching the operation modes (DMP mode/Scanner mode)
- Setting the function keys

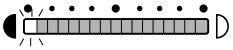
User mode setting

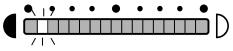


1. Press the AE key about 2 seconds.

The LED of the AE key and the Print/Error display blink. The power saving mode currently set will be displayed on the Print/Error display.

2. Press the Brightness Adjustment key (◀ or ▶) to move the blinking LED up to the point where a mode, of which settings you want to change, is located.

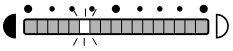
 Power saver mode

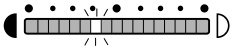
 Hi-speed scanning mode

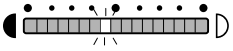
Scanning resolution

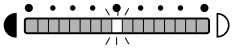
Cleaning mode

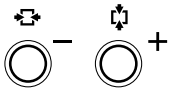
Switching the operation modes (DMP mode/Scanner mode)

 Setting the function keys (P1)

 Setting the function keys (P2)

 Setting the function keys (P3)

 Setting the function keys (P4)



3. Press the Print Number Setting key (**+** or **–**) to select the setting of each mode.

4. Press the Clear key to difine the setting.

User mode setting functions

Power saver mode

When the MS350 has not been operated for a specified length of time, the scanner switches into standby mode and stops projecting the image on the screen to save power consumption.

-0 : Does not switch into the power saver mode.

-1 : Switches into the power saver mode if not operated more than 15 minutes. (set at the factory before shipping)

-2 : Switches into the power saver mode if not operated more than 60 minutes.

- Default of the power saver mode at factory shipping is set to -1 so that the unit switches into the power saver mode if not operated more than 15 minutes.
- The power saver mode can be canceled by any key operation.
- When the FS Controller I and III is attached, the unit cannot switch into the power saver mode.

Hi-speed scanning

This feature is available in the DMP mode and enables you to speed up scanning by simplifying the startup operation.

-0 : Normal mode (set at the factory before shipping)

-1 : Hi-speed scanning mode

In the hi-speed scanning mode, the scanner delivers printouts of the images upside down.

Scanning resolution

When using the DMP mode, you can select one of the following scanning resolutions.

-0 : 600DPI

-1 : 300DPI (set at the factory before shipping)

In the case of 600DPI resolution, “Picture mode” is disabled even if selected. (→ P.40 “Setting the Print mode”)

Cleaning mode

This mode is enabled when the scanner is connected to the Fileprint 450 and used in the DMP mode so as to clean the fixing rollers of the printer. (→ P.50 “Cleaning mode”)

[--] : Normal mode (set at the factory before shipping)

[A4] : Cleaning mode (Cleaning paper: A4 sized)

[11] : Cleaning mode (Cleaning paper: Letter sized)

You need to prepare a sheet of paper of the size selected for cleaning and print the cleaning pattern on the paper before you start cleaning the fixing rollers.

Switching the operation modes

This feature is enabled when the optional DMP board is installed in the scanner so as to switch to either of the following modes.

[-0] : Scanner mode

[-1] : DMP mode (set at the factory before shipping)

The MS350 can be used as a scanner even if the operation mode is set to the [DMP mode]; however, the Reader-Printer mode will be disabled in this case. To enable the Reader-Printer mode, be sure to switch to the [Scanner mode].

Setting the function keys

You can make setting of the features assigned to the function keys on the operation keyboard. (→ P.37 “Setting the function keys”)

[-0] : DISABLED

[-1] : DATE

[-2] : NOTE

[-3] : PICTURE

[-4] : SHARPNESS

[-5] : DMP MODE

ENTERING THE DEFAULT VALUES

The MS350 lets you save your own default settings for the Print mode and such. Once you have recorded the defaults, you can recall them at any time by pressing the [RESET] key on the operation keyboard.

Entering the default values

1. Press the Reset key for about 2 seconds to enter the setting mode.

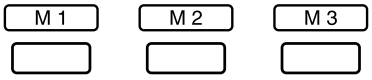
> In the setting mode, the respective lamps on both the operation panel and the operation keyboard begin to blink.

2. Press a key to select the mode that you want to enter your default value for.

> In the setting mode, you can also register arbitrary zoom values to the zoom keys besides default values for the Print mode.

3. Press the Clear key to return to normal operating mode.

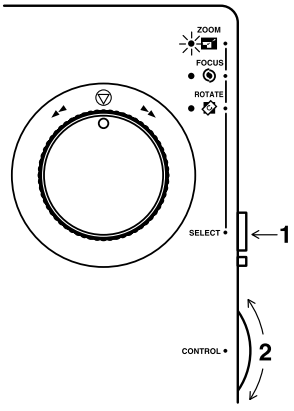
Registering the zoom values



This feature allows you to register arbitrary zoom values to the zoom keys (**M1, M2** or **M3**)on the operation keyboard.

You can then use these keys during normal operating mode to switch the zoom to the registered value.

> - The zoom keys work when the zoom value has been registered for the lens that is attached.
> - The zoom keys do not work, even if you press them, of the zoom value for the lens that is attached has not been registered.



1. Press the [RESET] key for about 2 seconds to enter the setting mode.
2. Press the select button so that the [Zoom] lamp begins to blink.
3. Watching the screen, turn the Image Adjustment Control dial to adjust the zoom.
4. Press one of the zoom keys (**M1, M2** or **M3**) to register the zoom. Up to three zoom values can be registered.
5. Press the Clear key to return to normal operating mode.

MAINTENANCE AND TROUBLESHOOTING

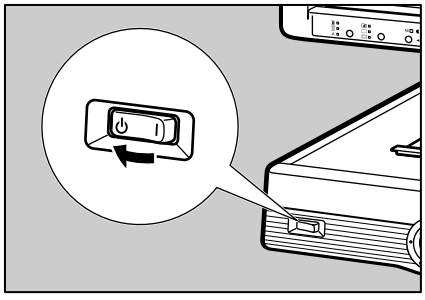
This part of the manual describes how to replace the halogen lamp, cleaning the scanner and dealing with errors. Regular scanner maintenance is essential to eusure optimum performance and a long service life from your scanner.

Replacing the lamp

The lamp projects the film image onto the screen, and the procedure for replacing the lamp is described below, along with some precautions to be observed when handling the lamp unit. If the lamp burns out, use the procedure below to replace it.
When the lamp burns out, “LP” appears on the Print/Error display.

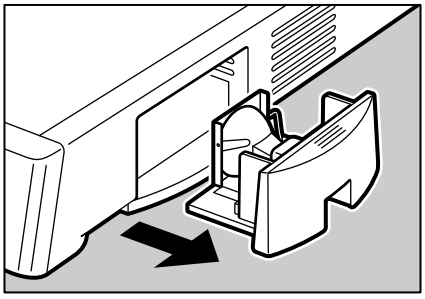
HEAT CAUTION

Immediately after the lamp burns out, the lamp and the metal components of the lamp unit are very hot. To avoid being burned, allow the lamp ample time to cool down before touching it. The lamp will cool down more quickly if you leave the scanner switched on for some minutes with “LP” displayed. After checking that the lamp and the metal components have cooled down, proceed with lamp replacement.



1. When the lamp burns out, leave the scanner switched on for several minutes until the lamp has cooled down.

After waiting at least 5 minutes, check that the lamp has cooled down and then switch the scanner off.

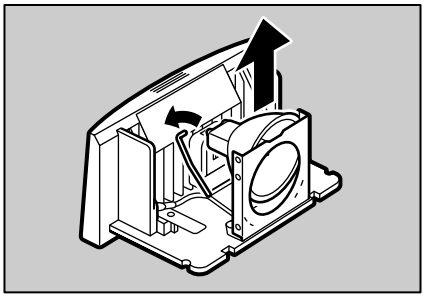


2. Firmly grip the lamp unit on the right side of the main unit and slowly pull the lamp unit out.

When you remove the lamp unit, "L5" appears in the Print/Error display.

CAUTION

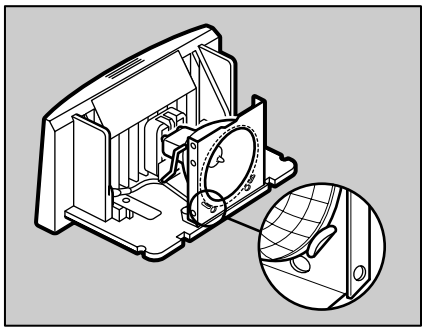
To avoid injury, do not touch the interior of the main unit after you have removed the lamp unit.

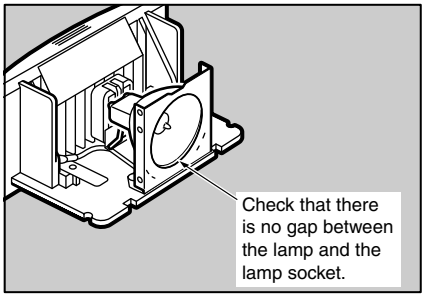


3. Push the lever on the side of the lamp and remove the burned out lamp.

HEAT CAUTION

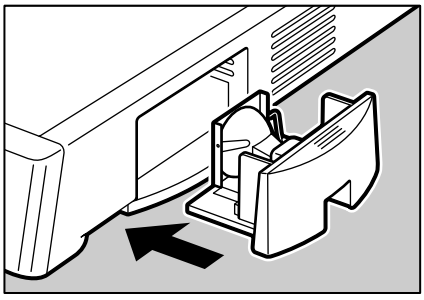
Immediately after the lamp burns out, the lamp and the metal components of the lamp unit are very hot. Never handle the lamp or lamp unit while they are still hot.





4. Fit the new lamp so that the manufacturer's mark is facing upwards and check that the lamp is fully inserted into the socket so that there is no gap between the lamp and the lamp socket.

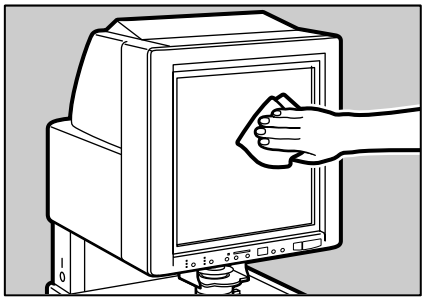
- Use only Canon-specified lamps as replacements.
- Take care not to touch the bulb in the new lamp. Soiling or fingermarks on the bulb can adversely affect image quality and shorten the service life of the bulb.
- Always check that there is no gap between the lamp and the lamp socket. Any gap between the lamp and the lamp socket will result in damage to the lamp holder.



5. Insert the lamp unit into the main unit with firm, even pressure until it locks into place.

Routine cleaning

Use the routine cleaning procedures described below to keep the scanner components clean and ensure optimum performance.

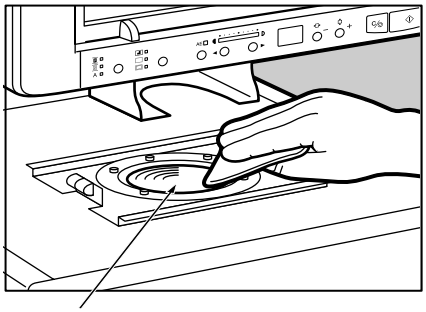


Cleaning the screen and main unit

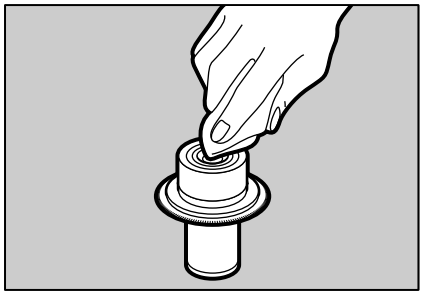
Use a cloth slightly dampened with water or mild detergent to clean any soiling off the scanner screen and casing. Then wipe the scanner with a clean dry cloth.

To avoid damaging the casing of the main unit, never clean the unit with an organic solvent such as thinners.

Cleaning the lens



1. Switch off the scanner and remove the carrier and lens unit.
2. Gently wipe off the field lens with a clean soft cloth.



3. Carefully remove the lens from the lens unit and wipe the upper and lower surfaces of the lens with a clean dry cloth.

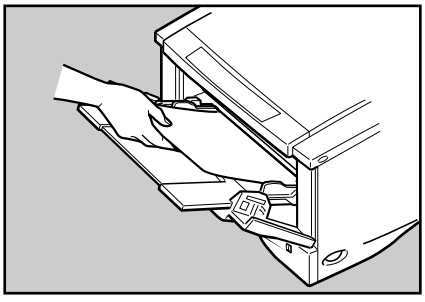
Cleaning mode

After changing the toner cartridge for the Fileprint 450, you must clean the fixing rollers of the Fileprint 450.
The following describes the cleaning procedure for the fixing rollers of the Fileprint 450. For details on how to handle the Fileprint 450, refer to the Fileprint 450 Instruction Manual.

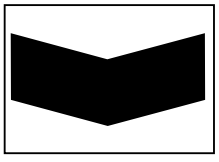
Cleaning the Fixing Rollers

1. Select the Cleaning mode in the user mode settings.

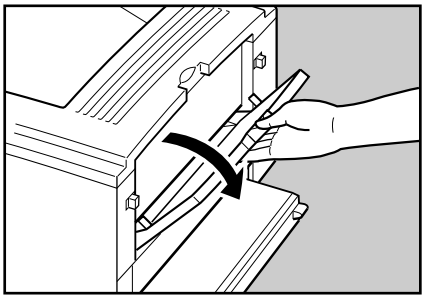
The paper size currently selected will be displayed on the Print/Error display.



2. Open the pickup tray of the Fileprint 450 and set a sheet of paper of the selected size on it.

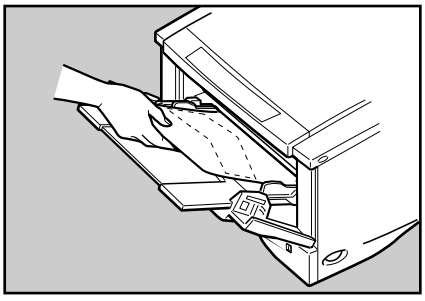


3. Press the Start key. The cleaning paper will be printed out and [CL] will be displayed on the printing count indicator.



To reset the Cleaning mode midway, press the Clear key before pressing the Start key. Once the cleaning paper is printed out, you cannot reset the Cleaning mode midway; therefore, you must go through the entire cleaning procedure for the fixing rollers till the end.

4. Switch the setting on the Fileprint 450 to the face-up paper delivery.



5. Set the cleaning paper on the pickup tray facing the printed side down and pointing the arrow inward.

6. Press the Start key to start cleaning the fixing rollers.

It takes about 2 minutes to complete cleaning the fixing rollers. Do not touch the scanner because no operation can be carried out during the cleaning.

7. When the cleaning is completed, the Print/Error display will return to normal.

Troubleshooting

If you detect a problem during operation of the main unit, check the list of problems and possible solutions below.

Problem	Solution
Screen does not come on, even after turning on the power switch.	• Check that the lamp unit is properly fitted into the main unit. • Check whether the lamp has burned out. When the lamp is burned out, “LP” appears on the Error/User Mode display. If the lamp has burned out, fit a new lamp. (→P.47 “Replacing the lamp”)
The screen brightness is uneven or the screen is too dark.	• Check the lens and make sure it is clean. (→P.49 “Routine Cleaning”) • Check the lens and make sure it is securely installed. (→P.16 “Preparing the lens”) • Check the lamp and lamp unit and make sure both are installed securely. (→P.47 “Replacing the lamp”) • Check the setting of the Light Adjustment dial and make sure it is set correctly for the type of lens installed. (→P.16 “Preparing the lens”)
Image is out of focus.	• Adjust the focus with the Image Adjust Control dial. (→P.33 “Adjusting the image”) • Check the lens and make sure that it is installed correctly. • Check the carrier and make sure that it is installed correctly. For details, read the instructions you received with the carrier. • Check the lens and lamp and make sure they are clean. If required, clean the lens or lamp.
Image is skewed.	• Adjust the rotation using the Image Adjust Control dial. (→P.33 “Adjusting the image”) • Check the carrier and make sure that it is installed correctly. For details, read the instructions you received with the carrier.
Splices are seen on the image after a few scans.	• This is one of the specifications to complement insufficient performance of a currently connected computer. Upgrade the computer performance to ease this phenomenon. • System resource or work memory of the computer is insufficient. Close all applications and reboot the computer. When using the MS350, it is recommended that all other applications be closed.
After pressing the start key, scan will not start.	• Check that the computer is switched on and has started up correctly. • If the display shows a User Call Error, look it up in the table. (→P.52 “User Call Error”) • If the display shows a Service Call Error, look it up in the table. (→P.53 “Service Call Error”)

User call errors

Here is a list of User Call Errors. If you see a User Call Error in the Print display, look it up in the table below.

Scanner mode

Error Number	Meaning	Solution
LP	The lamp installed in the scanner has burned out.	Replace the new lamp. (→P.47 “Replacing the lamp”)
L5	The lamp unit is not correctly installed in the scanner.	Check the lamp installation and make sure it locks in place. If the error occurs again, replace the halogen lamp. (→P.47 “Replacing the lamp”)

DMP mode

Error Number	Meaning	Solution
P0	After removing a piece of jammed paper, a sheet of paper is still jammed in the printer.	Remove the jammed sheet from the printer. For details, refer to your printer manual.
P1	A sheet of paper has jammed inside the printer.	Remove the jammed sheet from the printer. For details, refer to your printer manual.
P2	Two sheets of paper have jammed inside the printer.	Remove the jammed sheet from the printer. For details, refer to your printer manual.
LP	The lamp installed in the scanner has burned out.	Replace the new lamp. (→P.47 “Replacing the lamp”)
L1	Paper is not set in the printer.	Supply paper to the paper cassette of the printer. For details, refer to the printer manual.
L2	Toner in the toner cartridge is low, or the toner cartridge is not installed correctly.	Remove the toner cartridge and install it again. If the message appears again, replace the toner cartridge. For details, refer to the printer manual.
L4	The printer cover is open.	Close the printer cover and make sure it locks in place. For details, see the printer manual.
L5	The lamp unit is not correctly installed in the scanner.	Check the lamp installation and make sure it locks in place. If the error occurs again, replace the halogen lamp. (→P.47 “Replacing the lamp”)
L8	Wrong paper size in printer feed tray.	Re-load the tray with the correct paper size, or change the paper size of the paper tray. (→P.41“Printing”)
L9	Printer power is not turned on, or a test print is printing.	If the printer is off, turn the printer power switch on. For details, see the printer manual.

Service Call Errors

Every time you turn on the main unit, the unit automatically performs a self-diagnostic test. If the unit detects a problem at power on, or at any other time during operation, it will display a Service Call Error message in the display. A Service Call Error is indicated by an error code consisting of an "E" followed by three digits ("Ennn" where "n" indicates a number). This code is displayed in 2 parts as "En" followed by "nn". (Eg. "E123" is displayed as "E1" followed by "23".)

Follow the procedure below when a Service Call Error occurs.

1. Immediately switch off the scanner and wait several minutes.
2. Switch the scanner on again and check the scanner status.

When a service call error occurs, it is sometimes possible to resolve the problem simply by switching the scanner off for a while and then switching it on again.

■ When you cannot clear a service call error

Make a note of the error code and the nature of the problem. Then switch off the scanner and any peripheral units such as the carrier, unplug the power cord and contact an authorized Canon service technician.

SPECIFICATIONS

Microfilm Scanner 350

Main Unit	
Type	Desktop digital microfilm scanner
Screen	300 mm x 300 mm
Scanning method	600 dpi digital scanning
Film	Negative, Positive, Negative/Positive auto switching
Lens magnification	x7,x9.5-x16, x16-x32, x30-x55, x10-x24, x20-x48
Light source	Halogen lamp (20V 150W)
Film	
Type	Silver film, Diazo film, (blue/black)
Base density	0.6 to 1.4 for negative, 0.3 or less for positive
Image Adjustment	
Focus/zoom	Manual
Rotation	360˚ manual, 90˚ automatic
Scanning	
Scan size (USA or Canada)	Letter, Legal
Scan size (other areas)	A4
Density control	AE, Manual
Scan options	Automatic border deletion, Trimming
Printing	
Print Size (USA, Canada)	A4, Letter, Legal
Print Size (other areas)	A4
Density control	AE, manual
Continuous printing	1 to 99
Print options	Automatic border deletion, Sharpness adjustment, Picture mode, Trimming
Other functions	Date stamp (Year/month/day/time formats) Note stamp (Up to 33 characters), Reset, Zoom memory
General	
Power consumption	AC 120V 60Hz, 2A AC 220-240V 50/60Hz, 1.2A
Acoustic noise level	Less than 66 dB
Work environment	Room temperature: 10˚C to 32.5˚C (50˚F to 90.5˚F) Humidity: 10% to 80%RH (without condensation)
Dimensions	Main unit: 668 x 442 x 541 mm (H x W x D) Keyboard: 41 x 260 x 180 mm (H x W x D)
Weight	Main unit: Approx. 26 kg Keyboard: Approx. 0.8 kg
Options	
Fixed lens	HX7 (x7)
Zoom lenses	HZ01 (x9.5-x16), HZ02 (x16-x32), HZ03 (x30-x55), HZ04 (x20-x48) HZ05 (x10-x24)
Carriers	FC 190 RII, AC 100C, AC 100R, AC 100M FS Controller I, FS Controller III, Roll Fiche Carrier 200
Framing Kit	
Foot switch	
Installation Kit	

Specifications are subject to change without notice.

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■ MEMO ■

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